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10/714,216	11/14/2003	Mallinath Hatti	15270US01	2560

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EXAMINER
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PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/714,216	<b>Applicant(s)</b> HATTI ET AL.	
	<b>Examiner</b> Jeff Piziali	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8,9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8,9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: " $L_0, L_1, \dots L_x L_{x+1}, L_N$ " (see Fig. 1); "*Video Signal Encoder 55*" (see Fig. 3); and "*835a-835f*" (see Fig. 5).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

### *Specification*

3. The disclosure is objected to because of the following informalities:

The term "***means of a vertical synchronization pulses***" should be changed, for example to, "***means of vertical synchronization pulses***" (see Page 1, Paragraph 4, Line 5).

Appropriate correction is required.

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 11 recites, "***a frame buffer for storing the second frame beginning at least one starting address***" (in line 1). The specification is not enabling for such subject matter.

It would be unclear to one having ordinary skill in the art how either a "***frame buffer***" or a "***second frame***" are capable (enabled for) "***beginning at least one starting address***". Perhaps the Applicants intended to say, "***beginning at at least one starting address***". However, it is unclear for certain whether or not that was the intention.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 8, 9, and 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*a display engine*" (in line 2).

The function of the "*display engine*" is claimed only "*for providing a first frame*". It would be unclear to one having ordinary skill in the art whether or not this limitation provides any "*displaying*"; and whether or not the "*engine*" provides any functionality. An artisan would appreciate that a variety of circuits and elements (not necessarily labeled a "*display engine*") are capable of "*providing a frame*." It's unclear whether the claimed invention is implying certain functionality; or rather whether the claim language is merely relying upon a labeling convention.

An omitted structural cooperative relationship results from the claimed subject matter: "*a host processor*" (in line 3).

The function of the "**host processor**" is claimed as only "*providing information about a second frame*". It would be unclear to one having ordinary skill in the art whether or not this limitation provides any "*processing*"; and whether or not the "*host*" (if it is indeed also a claimed element of the invention) provides any functionality. An artisan would appreciate that a variety of circuits and elements (not necessarily labeled a "*host processor*") are capable of "*providing information about a frame*." It's unclear whether the claimed invention is implying certain functionality; or rather whether the claim language is merely relying upon a labeling convention.

An omitted structural cooperative relationship results from the claimed subject matter: "**a host processor**" (in line 3) and "**host processor**" (in line 5).

It would be unclear to one having ordinary skill in the art whether there is a single, identical "**host processor**" being claimed; or rather whether distinct and different "**host processors**" are being claimed.

An omitted structural cooperative relationship results from the claimed subject matter: "*providing information about a second frame*" (in line 3) and "*provide the information regarding the second frame*" (in line 6).

The lack of a grammatical article (such as "*a*" or "*a plurality of*" or "*the*" or "*said*") preceding the limitation "*information about a second frame*" (in line 3) renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. Furthermore, it would be unclear to an artisan whether a single element of

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"**information**" is being claimed; or rather whether a plurality of elements of "**information**" are being claimed.

It would be unclear to one having ordinary skill in the art whether the "**information about a second frame**" is the same and identical to "**the information regarding the second frame**"; or rather whether the "**information about a second frame**" is the different and distinct from "**the information regarding the second frame**".

10. Claim 8 recites the limitation "**provide the information regarding the second frame**" (in line 6). There is insufficient antecedent basis for this limitation in the claim.

11. Claim 9 recites the limitation "**the predetermined time**" (in line 3). There is insufficient antecedent basis for this limitation in the claim.

12. Claim 9 is indefinite where it specifies "**predetermined**" (in line 3), since "**predetermined**," according to applicant's definition, merely means "**determined beforehand**." For example, see *Joseph E. Seagram & Sons, Inc. V. Marzall*, Comr. Pats., 84 USPQ 180 (Court of Appeals, District of Columbia).

13. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***a frame buffer for storing the second frame beginning at least one starting address***" (in line 1).

It would be unclear to one having ordinary skill in the art how either a "*frame buffer*" or a "*second frame*" are capable (enabled for) "***beginning at least one starting address***". Perhaps the Applicants intended to say, "***beginning at at least one starting address***". However, it is unclear for certain whether or not that was the intention.

An omitted structural cooperative relationship results from the claimed subject matter: "***storing information regarding the first frame***" (in line 2).

The lack of a grammatical article (such as "*a*" or "*a plurality of*" or "*the*" or "*said*") preceding the limitation "***information regarding the first frame***" renders it unclear whether the claim is establishing a new element; or instead referring back to some preestablished limitation. Furthermore, it would be unclear to an artisan whether a single element of "***information***" is being claimed; or rather whether a plurality of elements of "***information***" are being claimed.

14. Claim 13 recites the limitation "***the predetermined time***" (in line 3). There is insufficient antecedent basis for this limitation in the claim.



15. Claim 13 is indefinite where it specifies "***predetermined***" (in line 3), since "***predetermined***," according to applicant's definition, merely means "*determined beforehand*." For example, see *Joseph E. Seagram & Sons, Inc. V. Marzall*, Comr. Pats., 84 USPQ 180 (Court of Appeals, District of Columbia).

16. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***a feeder***" (in line 2).

The function of the "***feeder***" is claimed only "*providing the first frame*". It would be unclear to one having ordinary skill in the art whether or not this limitation provides any "*feeding*"; and whether or not there is an element being "*fed*". An artisan would appreciate that a variety of circuits and elements (not necessarily labeled a "*feeder*") are capable of "*providing a frame*." It's unclear whether the claimed invention is implying certain functionality; or rather whether the claim language is merely relying upon a labeling convention.

17. The remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon rejected base claims.

***Claim Rejections - 35 USC § 102***

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 8, 9, and 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by ***Sotheran (US 5,603,012 A)***.

Regarding claim 8, Sotheran discloses a system for displaying frames, said system comprising:

a display engine [i.e., 3-buffer system] for providing a first frame [i.e., a first, previous frame of picture data];

a host processor [i.e., buffer manager] for providing information [i.e., status information - e.g., buffer flagged as READY] about a second frame [i.e., a second, next, new frame of picture data following the first frame of picture data] to the display engine, after the display engine provides the first frame; and

wherein the display engine provides the first frame [i.e., previous displayed buffer frame picture is repeated], if host processor does not provide the information [e.g., buffer not flagged as READY] regarding the second frame to the display engine before a first horizontal synchronization pulse [i.e., hsync] following a vertical synchronization pulse [i.e., vsync] associated with the second frame (see Column 295, Line 45 - Column 296, Line 40).

Sotheran explains, "*The display address generator requests a new display buffer, once every vsync, via a two-wire interface. If there is a buffer flagged as READY, then that will be allocated to display by the buffer manager. If there is no READY buffer, the previously displayed buffer will be repeated" (see Column 296, Lines 17-21).*

Therefore, Sotheran teaches not providing the information [e.g., buffer not flagged as READY] regarding the second frame to the display engine following a vertical synchronization pulse [i.e., wherein vsync for the first frame and second frame are both "associated" -- in different ways -- with the second frame].

Sotheran also goes on to define "vdelay" as "*The number of hsync pulses following a vsync pulse before the first line of video or border... The minimum vdelay is zero. The first hsync is the first active line" (see Column 333, Lines 48-59).*

Therefore, Sotheran clearly teaches at least one first horizontal synchronization pulse [i.e., hsync] following a vertical synchronization pulse [i.e., vsync].

Regarding claim 9, Sotheran discloses the display engine provides the second frame [i.e., READY buffer] if the host processor provides the information regarding the second frame before the predetermined time (see Column 295, Line 45 - Column 296, Line 40).

Regarding claim 11, Sotheran discloses a frame buffer [i.e., three buffers] for storing the second frame beginning at least one starting address; and

wherein the information comprises the at least one starting address (see Column 295, Line 45 - Column 296, Line 40).

Regarding claim 12, Sotheran discloses a first at least one register [i.e., three buffers] for storing information regarding the first frame (see Column 295, Line 45 - Column 296, Line 40).

Regarding claim 13, Sotheran discloses a feeder [i.e., READY buffer] for providing the first frame based on the information regarding the first frame if the host processor does not provide the information regarding the second frame before the predetermined time (see Column 295, Line 45 - Column 296, Line 40).

Regarding claim 14, Sotheran discloses the host processor overwrites [i.e., EMPTY buffer] the information regarding the first frame with the information regarding the second frame and wherein the feeder providing the second frame based on the information regarding the second frame (see Column 295, Line 45 - Column 296, Line 40).

Regarding claim 15, Sotheran discloses the feeder rasterizes the first frame (see Column 325, Lines 55-61).

### ***Response to Arguments***

20. Applicant's arguments filed 29 February 2008 have been fully considered but they are not persuasive.

The reply filed 29 February 2008 states, "*Assignee respectfully submits that 'first horizontal synchronization pulse following a vertical synchronization pulse' is different from 'every vsync'. Accordingly, Assignee respectfully traverses Examiner's assertion that 'Regarding claim 10, Sotheran discloses the predetermined time comprises a first horizontal synchronization pulse following a vertical synchronization pulse associated with the second frame'*" (see Page 4, Bottom Paragraph of the reply filed 29 February 2008). However, the examiner respectfully disagrees.

Sotheran discloses the display engine [i.e., 3-buffer system] provides the first frame [i.e., previous displayed buffer frame picture is repeated], if host processor [i.e., buffer manager] does not provide the information [e.g., buffer not flagged as READY] regarding the second frame [i.e., a second, next, new frame of picture data following the first frame of picture data] to the display engine before a first horizontal synchronization pulse [i.e., hsync] following a vertical synchronization pulse [i.e., vsync] associated with the second frame (see Column 295, Line 45 - Column 296, Line 40).

Sotheran explains, "*The display address generator requests a new display buffer, **once every vsync**, via a two-wire interface. If there is a **buffer flagged as READY, then that will be allocated to display by the buffer manager**. If there is **no READY buffer, the previously displayed buffer will be repeated**" (see Column 296, Lines 17-21).*

Therefore, Sotheran teaches not providing the information [e.g., buffer not flagged as READY] regarding the second frame to the display engine following a vertical synchronization

pulse [i.e., wherein vsync for the first frame and second frame are both "associated" -- in different ways -- with the second frame].

Sotheran also goes on to define "vdelay" as "*The number of hsync pulses following a vsync pulse before the first line of video or border... [Wherein] the minimum vdelay is zero. The first hsync is the first active line*" (see Column 333, Lines 48-59).

Therefore, Sotheran clearly teaches at least one first horizontal synchronization pulse [i.e., hsync] following a vertical synchronization pulse [i.e., vsync].

Applicant's arguments with respect to claims 8, 9, and 11-15 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

### ***Conclusion***

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/

Primary Examiner, Art Unit 2629

15 May 2008